

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

HUMBOLDT B.V. and MPS NORTH
AMERICA, INC.

Plaintiffs/Counter-Defendants,

Case No. 1:17-cv-983

v.

HON. JANET T. NEFF

LORNIC DESIGN, INC.,

Defendant/Counter-Claimant.

_____ /

OPINION AND ORDER

This is a patent infringement case. Plaintiff Humboldt B.V. (Humboldt) owns U.S. Patent No. 9,433,225 (“the '225 patent”), which describes and claims a “detachable brush element for processing carcasses of slaughtered animals” (Ex. A to Compl., ECF No.1-1 at PageID.18). Plaintiff MPS North America (MPS) is Humboldt’s exclusive licensee in the United States. Plaintiffs brought this action against Defendant Lornic Design, Inc. (Lornic), alleging that Defendant is infringing on the '225 patent by selling carcass-processing brushes/whips that are knock-offs of those sold by MPS. Defendant Lornic filed a counterclaim, asking for a declaratory judgment that Lornic has not infringed, and is not infringing, the '225 patent. The matter is presently before the Court for claim construction pursuant to *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996). The parties filed a Joint Comprehensive Chart of Claim Constructive Issues (ECF No. 35) and claim construction briefs (ECF Nos. 37-40). Further, the parties made

presentations and offered arguments to the Court at a hearing on July 25, 2018.¹ The Court now issues this Opinion and Order to resolve the claim construction issues the parties identified.

LEGAL FRAMEWORK

The United States Court of Appeals for the Federal Circuit has “exclusive jurisdiction— (1) of an appeal from a final decision of a district court ... in any civil action arising under ... any Act of Congress relating to patents....” 28 U.S.C. § 1295(a). “Accordingly, the Federal Circuit’s rulings on substantive patent law are controlling authority on this Court.” *Scholle Custom Packaging, Inc. v. Grayling Indus., Inc.*, No. 1:03-cv-93, 2010 WL 2232273, at *1 (W.D. Mich. June 3, 2010) (citing authorities therein).

“[T]he claims of a patent define the invention to which the patentee is entitled the right to exclude.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). Hence, “[a]n infringement analysis entails two steps.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996). The first step, commonly known as claim construction or interpretation, is “determining the meaning and scope of the patent claims asserted to be infringed.” *Id.* The second step is “comparing the properly construed claims to the device accused of infringing.” *Id.* The inquiry required by the first step “is a matter of law exclusively for the court.” *Id.* at 970-71. A claim construction order, in turn, dictates “how the court will instruct the jury regarding a claim’s scope.” *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1359 (Fed. Cir. 2008).

The Federal Circuit summarized the basic principles of claim construction in *Vitronics*

¹ Neither party indicated that expert testimony was required for the Court to resolve any of the claim construction issues (ECF No. 37 at PageID.406; ECF No. 40 at PageID.1244).

Corp. v. Conceptiontronic, Inc., 90 F.3d 1576 (Fed. Cir. 1996), as follows:

In determining the proper construction of a claim, the court has numerous sources that it may properly utilize for guidance. These sources have been detailed in our previous opinions, as discussed below, and include both intrinsic evidence (e.g., the patent specification and file history) and extrinsic evidence (e.g., expert testimony).

It is well-settled that, in interpreting an asserted claim, the court should look first to the intrinsic evidence of record, i.e., the patent itself, including the claims, the specification and, if in evidence, the prosecution history. Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language. First, we look to the words of the claims themselves, both asserted and nonasserted, to define the scope of the patented invention. Although words in a claim are generally given their ordinary and customary meaning, a patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, as long as the special definition of the term is clearly stated in the patent specification or file history.

Thus, second, it is always necessary to review the specification to determine whether the inventor has used any terms in a manner inconsistent with their ordinary meaning. The specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication. As we have repeatedly stated, “[c]laims must be read in view of the specification, of which they are a part.” The specification contains a written description of the invention which must be clear and complete enough to enable those of ordinary skill in the art to make and use it. Thus, the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.

Third, the court may also consider the prosecution history of the patent, if in evidence. This history contains the complete record of all the proceedings before the Patent and Trademark Office, including any express representations made by the applicant regarding the scope of the claims. As such, the record before the Patent and Trademark Office is often of critical significance in determining the meaning of the claims. Included within an analysis of the file history may be an examination of the prior art cited therein. In most situations, an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term. In such circumstances, it is improper to rely on extrinsic evidence.

Id. at 1582-83 (citations and internal quotations omitted).

The task of comprehending the words of a claim is not always a difficult one. *Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 805 (Fed. Cir. 2007). “In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay

judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314 (“reaffirm[ing] the “basic principles of claim construction outlined” in several cases, including *Vitronics* and *Innova/Pure Water*). The inquiry therefore typically “begins and ends with the intrinsic evidence.” *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1218 (Fed. Cir. 2014) (citing *Phillips*, 415 F.3d at 1318). ““The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.”” *Phillips*, 415 F.3d at 1316 (quoting *Renishaw PLC v. Marposs Societa per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)).

CLAIM CONSTRUCTION

The '225 patent in this case describes and claims a detachable brush/whip element for processing the carcasses of slaughtered animals, as seen below:



FIG. 1B

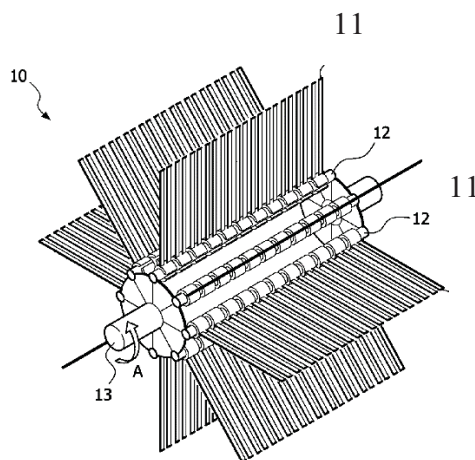


FIG. 2A

(Ex. A to Compl., ECF No. 1-1 at PageID.11, 14). “Figure 1B shows a side view of the brush element” (*id.* at PageID.18). “Figure 2A shows one exemplary embodiment of an assembly of a brush ...with a rotatable body” (*id.*). “Such brush elements are driven by a rotating shaft which is mounted in a brushing device and is used to remove hair from, clean and/or beat carcasses dry” (*id.* at PageID.16). There are ten claim terms in dispute, as set forth in the parties’ chart (ECF No. 35). As counsel acknowledged at the *Markman* hearing, the terms are somewhat intertwined.

1. “*integrated with*” (claims 1 & 19)

The first term in dispute is “integrated with,” which appears in claims 1 and 19. Claims 1 and 19 state, in pertinent part: “[a] detachable brush element for processing carcasses of slaughtered animals, comprising: a) at least one female coupling member; and b) at least one substantially elongated flexible whip extending from and integrated with [the] at least one female coupling member” (Ex. A. to Compl., ECF No. 1-1 at PageID.18, 20).²

Plaintiffs’ proposed construction of the term “integrated with” is “joined with so as not to be separable from in normal use” (ECF No. 35-1 at PageID.2). Defendant’s proposed construction is “[t]he whip and the coupling member are formed together” (*id.*).

The Court adopts Plaintiffs’ construction.

Plaintiffs argue that the plain meaning of “integrated” includes “joined,” “combined,” and “united,” concepts that are broader than Defendant’s proposed construction of “formed together” (ECF No. 37 at PageID.395). Further, Plaintiffs point out that in the prosecution history, the patentee used “integrated” to distinguish a configuration in which parts are separated during normal use (*id.*).

Defendant points out that the phrase “integrated with” never appears in the specification

² Claim 19 includes the bracketed word “the,” whereas Claim 1 does not.

(ECF No. 38 at PageID.723; ECF No. 40 at PageID.1255). Defendant argues that the plain meaning of “integrated” is instead supportive of its construction of “formed together” (ECF No. 38 at PageID.723). Defendant argues that the prosecution history, which differentiated the prior art based on the prior art’s bracket and fingers being separate members, also supports its construction (ECF No. 38 at PageID.723-724; ECF No. 40 at PageID.1256).

In response, Plaintiffs persuasively argue that under Defendant’s proposed construction, if the two parts are formed separately then “combined,” they would not be “integrated” (ECF No. 39 at PageID.1237). And Plaintiffs assert that their construction is “fully consistent with prosecution history using that term to distinguish ‘separate members’” (*id.* at PageID.1237-1238). Plaintiffs opine that there is no need to use a narrow interpretation of “integrated with” in order to give effect to the prosecution history (*id.* at PageID.1238). Last, as Plaintiffs pointed out at the *Markman* hearing, Defendant’s construction is impliedly limited to parts that are formed “at the same time.” For these reasons, the Court is persuaded that the term “integrated with” is properly construed as “joined with so as not to be separable from in normal use.”

2. “*female receiving space*” (claims 1, 13, 19 & 20)

The second term in dispute is “female receiving space,” which appears in claims 1, 13, 19 and 20. Plaintiffs’ proposed construction is “a space within the female coupling member that is designed to receive a male counter-coupling member during use of the brush element” (ECF No. 35-1 at PageID.2). Defendant’s proposed construction is “[t]he entire space of the female coupling member into which the male counter coupling member could fit without biasing the female coupling member” (*id.*).

The Court adopts Plaintiffs’ construction.

Plaintiffs argue that nothing in the intrinsic evidence supports or defines the “receiving

space” to be the “entire space” that could be occupied “without biasing” the coupling member (ECF No. 37 at PageID.396). Indeed, Plaintiffs assert that the opposite is true: when the coupling member engages a rod within the receiving space, it can be under bias (*id.*). Plaintiffs argue that Defendant’s definition should also be rejected because the construction does not specify the size of the rod to be used and provides different results depending on the size (*id.* at PageID.397).

Defendant points out that because the specification does not use the term “female,” the term “female receiving space” has no direct support in the specification (ECF No. 38 at PageID.714). Defendant argues that its construction accounts for the following two attributes described in the specification: (1) the “receiving space” is larger than the rod that it receives “so that there is ‘play,’ allowing the whip to rotate around the rod”; and (2) the narrowed entrance channel leading to the receiving space is “temporarily enlarged under bias” and then “springs back to its starting . . . position” when the whip is snapped onto the rod (ECF No. 38 at PageID.715; ECF No. 40 at PageID.1247).

In response, Plaintiffs persuasively argue that Defendant’s construction improperly imports limitations from the specification into the claim language (ECF No. 39 at PageID.1221). According to Plaintiffs, it is the words of the claims that limit the patented invention, not the preferred embodiments provided in the specification (*id.*).

The Court agrees. “It is the claims that define the metes and bounds of the patentee’s invention.” *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1366-67 (Fed. Cir. 2012). Courts “do not read limitations from the specification into claims.” *Id.* at 1366. *See also Oatey Co. v. IPS Corp.*, 514 F.3d 1271, 1276 (Fed. Cir. 2008) (“We normally do not interpret claim terms in a way that excludes embodiments disclosed in the specification.”). Consequently, the Court is not convinced of the propriety of Defendant’s addition of a “without biasing” requirement to the

construction of the term “female receiving space.” Rather, the Court is persuaded that Plaintiffs’ construction stays true to the claim language. “Female receiving space” is properly construed as “a space within the female coupling member that is designed to receive a male counter-coupling member during use of the brush element.”

3. “*narrowed entrance channel*” (claims 1, 13 & 19)
4. “*narrowed entrance*” (claim 20)

The third and fourth terms in dispute are “narrowed entrance channel” and “narrowed entrance,” terms that also appear in claims 1, 13, 19 and 20. Plaintiffs’ proposed construction is “a space that (1) connects the outside of the female coupling member with the female receiving space and (2) when viewed in a cross-section with the female receiving space, has a smallest dimension that is narrower than the greatest dimension of female receiving space” (ECF No. 35-1 at PageID.2). Defendant’s proposed construction is “[a] channel narrower than the female receiving space that starts at the outside of the female coupling member and ends at the female receiving space” (*id.*).

The Court adopts Plaintiffs’ construction.

Plaintiffs argue that their proposed construction is more precise than Defendant’s construction (ECF No. 37 at PageID.397). According to Plaintiffs, Defendant’s proposed construction does not specify which dimension of the entrance must be “narrower” than which dimension of the receiving space, whereas Plaintiff specifies that the smallest dimension of the entrance channel must be narrower than the greatest dimension of the receiving space (*id.*).

Defendant argues that its construction is consistent with the specification because the construction ensures that the narrowed entrance channel does not extend beyond the female coupling member by “constraining the other end of the ‘narrowed entrance (channel)’ to that which ‘starts at the outside of the female coupling member’” (ECF No. 38 at PageID.716). “Thus, the

end of the entrance channel is where the female receiving space starts—that is, where the counter coupling member does not bias a portion of the coupling member” (*id.* at PageID.716-717).

However, in response, Plaintiffs point out that the female receiving space, not just the entrance channel, can be under bias (ECF No. 39 at PageID.1226). Also, according to Plaintiffs, the specification does not define a beginning and end of the entrance channel, as Defendant’s construction does; instead, the specification simply describes the two spaces as being associated with one another (*id.*). Plaintiffs persuasively argue that there is no reason to import a “no bias” requirement to the receiving space (*id.* at PageID.1226-1227).

Again, the Court is not convinced of the propriety of Defendant’s addition of a “no biasing” requirement, nor is the Court convinced of the propriety of defining a specific boundary between the narrowed entrance and the receiving space. The Court is instead persuaded that Plaintiffs’ construction stays true to the claim language and most naturally aligns with the patent’s description of the invention.

5. “*the narrowed entrance channel widens into the female receiving space*” (claims 1 & 13)
6. “*the narrowed entrance channel widens into the receiving space*” (claims 19 & 20)

Plaintiffs’ proposed construction of the fifth and sixth terms in dispute, which appear in the same claims at issue, is “the width of the space within the female coupling member increases while transitioning from the entrance channel to the female receiving space” (ECF No. 35-1 at PageID.2). Defendant’s proposed construction is “[t]he narrowed entrance channel itself (and not the female receiving space) increases in width at the end of the narrowed entrance channel that is closest to the female receiving space” (*id.*).

The Court adopts Plaintiffs’ construction.

Plaintiffs argue that their proposed construction specifies that the transition must occur when moving from the “narrowed entrance channel” into the “receiving space” (ECF No. 37 at

PageID.399). Plaintiffs argue that their interpretation is correct because under the plain and ordinary meaning, regardless of the shape of the entrance channel, it widens when it intersects the receiving space (*id.*).

Defendant argues that the widening of the entrance channel must be more than just the termination of the entrance channel into the receiving space, which is “substantially larger” than the narrowed entrance channel (ECF No. 38 at PageID.717). Defendant argues that the prosecution history is likewise clear that it is the structure of the narrowed entrance channel that “widens” into the female receiving space (*id.* at PageID.718). Defendant asserts, as it asserted at the *Markman* hearing, that the '225 patent discloses “an hourglass shape of the channel itself” (ECF No. 40 at PageID.1249).

In response, Plaintiffs persuasively argue that Defendant’s construction fails to appreciate that “widens into” only requires “larger,” not “*substantially* larger” (ECF No. 39 at PageID.1228). Plaintiffs also argue that rather than comparing the size of the narrowed entrance channel to the size of the female receiving space at the location where the entrance channel transitions into the female receiving space, the “substantially larger” requirement focuses on comparing the size of the entrance channel to the size of the female receiving space at a different location: “along the longitudinal axis of the whip” (*id.*).

The Court is not convinced of the propriety of Defendant’s construction, which relies on determining “the end of the narrowed entrance channel.” Rather, as Plaintiffs emphasized at the *Markman* hearing, there is “no hard and fast line” between the narrowed entrance channel and the receiving space. Plaintiffs’ construction, which identifies the transition area as widening, most naturally aligns with the patent’s description of the invention. “[T]he narrowed entrance channel widens into the [female] receiving space” is properly construed as “the width of the space within

the female coupling member increases while transitioning from the entrance channel to the female receiving space.”

7. *“the receiving space being substantially larger than the narrowed entrance channel along the longitudinal axis of the whip”* (claims 1, 13, 19 & 20)

Plaintiffs’ proposed construction of the seventh term appearing in these same claims is “the dimension of the female receiving space as measured along the longitudinal axis of the whip is sufficiently larger than the smallest dimension of the narrowed entrance channel that, during use of the brush element, the male counter-coupling member for which the female receiving space is designed is able to stay reliably attached to the female coupling member” (ECF No. 35-1 at PageID.2-3). Defendant’s proposed construction is “[t]he female receiving space has to be substantially larger than any part of the narrowed entrance channel in a direction parallel to the length of the whip.” (*id.* at PageID.2).

The Court adopts Plaintiffs’ construction.

Plaintiffs argue that Defendant’s construction, which compares the size of the receiving space to “any part” of the narrowed entrance channel, finds no support in the ’225 patent; rather, the patent, like Plaintiffs’ construction, compares the “smallest dimension” of the narrowed entrance to the “greatest dimension of the female receiving space” (ECF No. 37 at PageID.401). Moreover, Plaintiffs point out that their construction defines the term “substantially larger,” whereas Defendant’s construction merely repeats the term (*id.* at PageID.402).

Defendant argues that “the specification’s requirement that the whip rotate around the rod while the rod stays within the female receiving space necessitates Lornic’s definition” (ECF No. 38 at PageID.722). Further, Defendant opines that Plaintiffs’ proposed construction “literally encompasses every snap-fit connection ever” and is therefore directly contrary to the prosecution history (ECF No. 40 at PageID.1253-1254).

However, as Plaintiffs point out in response, all that is required for the coupling member to stay on the rod is that there be at least one portion of the narrowed entrance channel that is narrow enough to keep the coupling member on the rod (ECF No. 39 at PageID.1235). The Court agrees with Plaintiffs that Defendant’s requirement—that the female receiving space has to be “substantially larger than any part of the narrowed entrance channel”—is not a necessary requirement for keeping the coupling member on the rod. The term “the receiving space being substantially larger than the narrowed entrance channel along the longitudinal axis of the whip” is therefore properly construed as “the dimension of the female receiving space as measured along the longitudinal axis of the whip is sufficiently larger than the smallest dimension of the narrowed entrance channel that, during use of the brush element, the male counter-coupling member for which the female receiving space is designed is able to stay reliably attached to the female coupling member.”

8. “*along the longitudinal axis of the whip*” (claims 1, 13, 19 & 20)

Plaintiffs’ proposed construction of the eighth term appearing in these same claims is “along an imaginary line that runs in a direction parallel to the length of, and through the middle of, the whip” (ECF No. 35-1 at PageID.3). Defendant’s proposed construction is “[i]n a direction parallel to the length of the whip” (*id.*).

The Court adopts Plaintiffs’ construction.

Plaintiffs argue that Defendant’s proposed construction cannot be correct because—once again—the construction does not specify which of the receiving space’s many dimensions should be used (ECF No. 37 at PageID.400). Plaintiffs point out that under Defendant’s definition, a jury could choose a dimension that is smaller than the narrowest dimension of the narrowed entrance channel, which would cause the claim (which requires that the receiving space as measured “along

the longitudinal axis of the whip” to be “substantially larger than the narrowed entrance channel”) to fail to cover even the preferred embodiment (*id.* at PageID.400-401).

Defendant argues that its construction is consistent with the plain meaning of the phrase (ECF No. 38 at PageID.720) and that Plaintiffs misunderstand what is the “middle of the whip” (ECF No. 40 at PageID.1252). Defendant argues that the prosecution history supports its construction because the phrase was first added to “provide directional context for the relative size recitations” (ECF No. 38 at PageID.720-721).

The Court determines that the term “longitudinal axis” means “an imaginary line that runs in a direction parallel to the length of, and through the middle of, an object.” As Plaintiffs point out (ECF No. 39 at PageID.1234), there is case law consistent with this determination. *See, e.g., Cordis Corp. v. Medtronic Ave, Inc.*, 511 F.3d 1157, 1183 (Fed. Cir. 2008) (recognizing that a “longitudinal axis” is a “center line”).

9. *“the narrowed entrance channel is directed facing away from the profiled side of the whip”* (claims 1, 13 & 19)

Plaintiffs’ proposed construction of the ninth term appearing in claims 1, 13 and 19 is “the exterior opening of the narrowed entrance channel is located on one side of the brush element and the profiled side of the whip is located on the opposite side of the brush element” (ECF No. 35-1 at PageID.3). Defendant’s proposed construction is “[t]he narrowed entrance channel faces in an opposite direction (in an approximately 180° direction) from the profiled side of the whip” (*id.*).

The Court adopts Plaintiffs’ construction.

Plaintiffs argue that Defendant’s construction is unclear because the construction does not provide a way to know if the profiled side of the whip is facing in an “approximately 180° direction” (ECF No. 37 at PageID.403). Plaintiffs argue that Defendant’s construction is also too narrow because the narrowed entrance channel does not have to be 180° (or approximately 180°)

from the direction that the profiled side faces (*id.*). Plaintiffs assert that the purpose of this claim—“reducing the chance of undesired uncoupling” of the brush element from the rod—is met if the narrowed entrance channel is located *anywhere* on the side opposite the profiled side (*id.* at PageID.403-404).

Defendant argues the plain meaning of the words “away from” is “in an opposite direction” (ECF No. 38 at PageID.719). Defendant points out that the specification likewise states that the entrance channel is “oriented” away from the profiled surface (*id.* at PageID.719-720).

In response, Plaintiffs reiterate that Defendant’s “narrow definition unnecessarily excludes situations using an orientation other than 180 degrees in which that purpose is met, whereas Plaintiffs’ definition harmonizes with that purpose” (ECF No. 39 at PageID.1232). The Court agrees. There is no reason apparent to the Court to impose a 180-degree requirement. “[T]he narrowed entrance channel is directed facing away from the profiled side of the whip” is properly construed as “the exterior opening of the narrowed entrance channel is located on one side of the brush element and the profiled side of the whip is located on the opposite side of the brush element.”

10. *“the whip and the female coupling member are manufactured as a single material part”*
(claims 1 & 19)

The last term in dispute is “the whip and the female coupling member are manufactured as a single material part,” which appears in only claims 1 and 19. Plaintiffs’ proposed construction is “the whip and the female coupling member are both made substantially from the same material and are made so as to be together in one part” (ECF No. 35-1 at PageID.3). Defendant’s proposed construction is “[t]he entire whip and the coupling member are formed from a single homogeneous material” (*id.*).

The Court adopts Plaintiffs’ construction.

Plaintiffs argue that the requirement is that the coupling member be manufactured substantially from “a resilient plastic,” which allows for it to be partially manufactured from another material (ECF No. 37 at PageID.405). Plaintiffs emphasize that contrary to Defendant’s construction, there is no requirement for the whip and the coupling member to be “homogeneous” (*id.* at PageID.405-406).

Emphasizing that homogeneity is a state of “consistency,” not “purity,” Defendant argues that its construction is supported by the plain meaning of the term and its contextual usage (ECF No. 38 at PageID.724; ECF No. 40 at PageID.1257). Defendant argues that the prosecution history “reinforces the requirement that the claimed invention is directed to a single homogeneous material, as that is one of the ways in which the claimed invention was distinguished from the prior art” (*id.* at PageID.725).

In response, Plaintiffs emphasize, as they did at the hearing, that Defendant offers no justification for its “homogeneous” limitation, a word that is not found in the claim language, specification or prosecution history (ECF No. 39 at PageID.1238). And, Plaintiffs point out that Defendant’s proposed construction fails to account for dependent claim 9, which further requires that “the female coupling member is manufactured substantially from a resilient plastic” (ECF No. 39 at PageID.1238-1239). The Court agrees that Defendant’s proposed “homogeneous” limitation is inconsistent with the use of the word “substantially” in dependent claim 9. An independent claim must not be construed to be narrower than the dependent claims that depend from it. *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1242 (Fed. Cir. 2003); *Wright Medical Technology, Inc. v. Osteonics Corp.*, 122 F.3d 1440, 1445 (Fed. Cir. 1997).

In sum, having fully considered the parties’ arguments, both oral and written, the Court determines that Plaintiffs properly construe each of the ten terms in dispute. Accordingly:

IT IS HEREBY ORDERED that the following constructions apply to the claims of U.S.

Patent No. 9,433,225:

1. “*integrated with*” (claims 1 & 19): “joined with so as not to be separable from in normal use”
2. “*female receiving space*” (claims 1, 13, 19 & 20): “a space within the female coupling member that is designed to receive a male counter-coupling member during use of the brush element”
- 3-4. “*narrowed entrance channel*” (claims 1, 13 & 19) and “*narrowed entrance*” (claim 20): “a space that (1) connects the outside of the female coupling member with the female receiving space and (2) when viewed in a cross-section with the female receiving space, has a smallest dimension that is narrower than the greatest dimension of the female receiving space”
- 5-6. “*the narrowed entrance channel widens into the female receiving space*” (claims 1 & 13) and “*the narrowed entrance channel widens into the receiving space*” (claims 19 & 20): “the width of the space within the female coupling member increases while transitioning from the entrance channel to the female receiving space”
7. “*the receiving space being substantially larger than the narrowed entrance channel along the longitudinal axis of the whip*” (claims 1, 13, 19 & 20): “the dimension of the female receiving space as measured along the longitudinal axis of the whip is sufficiently larger than the smallest dimension of the narrowed entrance channel that, during use of the brush element, the male counter-coupling member for which the female receiving space is designed is able to stay reliably attached to the female coupling member”
8. “*along the longitudinal axis of the whip*” (claims 1, 13, 19 & 20): “along an imaginary line that runs in a direction parallel to the length of, and through the middle of, the whip”
9. “*the narrowed entrance channel is directed facing away from the profiled side of the whip*” (claims 1, 13 & 19): “the exterior opening of the narrowed entrance channel is located on one side of the brush element and the profiled side of the whip is located on the opposite side of the brush element”
10. “*the whip and the female coupling member are manufactured as a single material part*” (claims 1 & 19): “the whip and the female coupling member are both made substantially from the same material and are made so as to be together in one part”

Dated: August 3, 2018

/s/ Janet T. Neff

JANET T. NEFF
United States District Judge